UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

MEMORANDUM

DATE: SEP 2 6 2006

SUBJECT: ACTION MEMORANDUM - Request for Time Critical Removal Action at the Minton Enterprises Site, Highland, Madison County, Illinois (Site ID # B5DL)

FROM: Kevin Turner, On-Scene Coordinator
Emergency Response Branch 2 - Response Section 2

Jaime Brown, On-Scene Coordinator
Emergency Response Branch 2 - Response Section 2

TO: Richard C. Karl, Director
Superfund Division

THRU: Linda M. Nachowicz, Chief
Emergency Response Branch

I. PURPOSE

The purpose of this memorandum is to request approval to expend up to $456,626 to abate an imminent and substantial threat to public health and the environment present at the Minton Enterprises Site, Highland, Madison County, Illinois (Site) (latitude 38° 44' 20.39" north and longitude -89° 41' 29.82" west). This action is necessary to mitigate the immediate threat to public health and the environment posed by the presence of uncontrolled hazardous substances from metal-plating waste, which include barium, cadmium, chromium, lead, cyanides, corrosive and caustic liquids.

The response action proposed herein will mitigate conditions at the Minton Enterprises (ME) Site through removal and off-site disposal of the contaminants of concern. The high levels of heavy metals, cyanides, corrosive and caustic liquids at concentrations considered hazardous, and the site's proximity to residential and business properties, require that this action be classified as a time critical removal. The project will require an estimated 30 working days to complete.

There are no nationally significant or precedent setting issues associated with the Minton Enterprises Site. The Minton Enterprises Site is not on the National Priorities List (NPL).

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID # ILN000510101

A. Site Description

1. Site history

A limited amount of history is known about the Minton Enterprises site. According to Mike Grant of Illinois Environmental Protection Agency (Illinois EPA), on February 22, 2006, the Illinois EPA inspected the ME site at the request of Highland city officials. Illinois EPA found large amounts of plating chemicals and waste from plating operations stored at the facility in an unsafe manner. Illinois EPA was concerned about the potential health hazards from chemicals and wastes at this site posed to nearby residents and other receptors and issued an order to seal the property on March 2, 2006. Illinois EPA referred the site to the U.S. EPA on March 3, 2006. The Highland city officials were aware that operations had ceased several months prior. The current owner Thomas Michael Kesterson purchased the property back in 1992 and has been incarcerated in Tennessee since April 2005.

2. Physical location

The ME site is located at 5 West Monroe Street, Highland, Madison County, Illinois. The ME site occupies two acres on the west of Highland and is situated in a primarily commercial and industrial area. However, there are several residences within close proximity. According to the Region 5 Superfund Environmental Justice Analysis, the group of residents within a one mile radius has a total population of 3,932. Of the 3,932, 2% are classified as minority. Approximately 40% of the families residing in this block group have an income of less than the established state low income level. To meet the Environmental Justice (EJ) concern criteria in Illinois, the area within 1 mile of the Site must have a population that is at least 54% low-income and/or 64% minority. Therefore, the demographic conditions do not indicate an environmental justice priority for the community around this Site.

3. Removal Site Evaluation

On April 6, 2006, U.S. EPA, OSC Kevin Turner and Superfund Technical Assessment and Response Team (START) members Tom Binz and Doug Ball arrived at the site to conduct the site assessment activities. Other personnel present on the Site included three representatives from Illinois EPA, Mike Grant, Jerry Willman and Tom Miller. The site assessment activities consisted of performing site reconnaissance; mapping of key site features and locations of site structures; collection of samples from drums, vats, and containers stored inside and outside of ME site buildings. OSC Turner and START observed a large quantity and variety of 55-gallon drums of plating wastes and assorted sized containers of miscellaneous hazardous materials in various areas throughout the site. The ME site consists of two buildings: the main plating building and an outside waste storage area building.

The main plating building appeared to be in fair condition and consisted of two offices, a small kitchen area and the main plating operations area. The items with descriptive labels found in the kitchen area were inventoried and included silver nitrate, hydrochloric acid, sodium hydroxide, potassium permanganate, ammonium hydroxide, and bleach. Adjacent to the kitchen area and the offices in the main plating building is the facility's water treatment process. The water treatment process consists of two 200-gallon vats, which were labeled Vat 1 and Vat 2 and are full of filtered solids. The items inventoried in this area included sodium hydroxide, galvanic brightener, filter solids and several paint buckets.

The middle of the main plating building, where the plating operations took place, contained three plating lines marked Line 2, Line 3, and Line 4. Lines 2 and 4 contained plating baths and remnant cleanings acid, water rinse and plating line residuals. Residue from past plating operations was observed on the floors and walls near the baths. Items inventoried in this area included Oxalic 295, sodium hydroxide, sodium hydrosulfite, ammonium, unknown liquids, and hydrogen peroxide.

The outside waste storage area building is separated into three bays with no doors and open to the environment on the east side. The bays contain approximately 150 drums that were stacked, which made it impossible to completely inventory them at the time. The drums that could be inventoried included phosphoric acid, nitric acid, chromic acid and sodium hydrosulfite. OSC Turner instructed START to move any drum that was outside of the storage area into the storage area building to minimize further deterioration by the elements. START was also instructed to erect a chain link fence as high as two drums stacked on one another on the east side of the building for temporary security.

To evaluate whether or not the ME site posed a threat to human health or the environment, OSC Turner, START and Illinois EPA identified eleven sample locations from unlabeled drums and vats inside and outside ME site buildings. There were eight samples collected from unmarked 55-gallon drums at the ME site three outside in the storage area and five inside the main plating building. Three of the drum samples were collected from the outside storage area and were given the sample identifications of X-201, X-202 and X-203. The other five drums samples were collected from inside the building and were given the sample identifications of X-206, X-207, X-208 (solid), X-209 (solid) and X-210. The remaining samples were taken from the plating bath areas and were given the sample identifications of X-204, X-205 and X-211 (solid).

All the samples were analyzed for characteristics of corrosivity and the results were compared to those provided in 40 CFR Section 261.22(a) (1). This section states that if the pH is less than or equal to 2.0 or greater than or equal to 12.5, the substance is considered to be hazardous by virtue of corrosivity. The pH result for X-202 was 1.15; and X-207, X-208, X-209 and X-210 yielded results between 12.6 and 14.5. All of the aforementioned samples exhibit characteristics of corrosivity as defined by 40 CFR Section 261.22 (a) (1) and are considered hazardous.

Samples X-201, X-202, X-203, X-208, X-209 and X-210 were analyzed for cyanide. 40 CFR Section 261.23 (a) (5) states that if a solid waste is a cyanide or sulfide–bearing waste that, when exposed to ph conditions between 2 and 12.5, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment, the waste exhibits the characteristics of reactivity. All of the samples analyzed for cyanide contained detectable levels of cyanide and therefore have the potential to generate toxic gases when exposed to pH conditions between 2 and 12.5.

All eleven samples collected were analyzed for total metals. Samples were not analyzed for toxicity leaching characteristic leaching procedure (TCLP) parameters; however, a waste sample concentration of a metal greater than 20 times the TCLP standard could indicate the waste's potential to leach that metal. Based on this assumption, a total hexavalent chromium or lead concentration greater than 100 milligrams per liter (mg/L) in a waste sample would indicate the waste's potential to leach metal. The concentration of total chromium in waste sample X-205 was greater than 100mg/L, indicating the potential of the waste to leach total chromium. Several metals were detected at various concentrations in the samples including arsenic, barium, cadmium, lead, selenium, silver, mercury and hexavalent chromium. The most significant was the total metal result for chromium in sample X-205 at 1,990 mg/L -- far greater than 20 times the TCLP standard of 5.0mg/L for chromium identified at 40 CFR 261.24.

B. State and Local Authorities Role

1. State and Local actions to date

On February 22, 2006, Illinois EPA representatives inspected the site at the request of Highland city officials. On March 2, 2006, the director of Illinois EPA issued an order to seal the property from public access due to health and safety concerns from abandoned hazardous materials at the ME site. On March 3, the Illinois EPA requested assistance from the U.S.EPA as a result of the hazardous waste found during the February 22nd inspection. On April 5, 2006, Illinois EPA representatives met with the Madison County Assistant States Attorney at the Madison County courthouse to obtain an Administrative Search Warrant for the Illinois EPA and their agents. The Administrative Search Warrant was then signed and was delivered at the ME site on April 6, 2006 in order to initiate the site assessment.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the Minton Enterprises Site present an imminent and substantial threat to the public health, or welfare, and the environment and meet the criteria for a removal action provided for in the National Contingency Plan (NCP), Section 300.415, Paragraph (b)(2). 40 C.F.R. 300.415(b)(2)(I). (iii) and (v), respectively, specifically allow removal actions for:

(i) **Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants**

While conducting the site assessment it was observed that there was easy access to the two buildings at the ME site. The ease of access to the buildings increases the potential of persons being exposed to caustic solutions and plating wastes. An unintentional or deliberate release of these substances would immediately expose the trespasser and could perhaps impact nearby human populations and surrounding site soils. The outside storage warehouse is separated into three bays and is not insulated. The bays contain no doors and are open to the environment on the east side with approximately 150 drums inside. These drums are loosely stacked two high and contain numerous hazardous materials including phosphoric acid, chromic acid, nitric acid and sodium hydrosulfite. Sodium hydrosulfite is a spontaneously combustible chemical when it comes in contact with water and the others are highly corrosive. These chemicals are exposed to the elements and could deteriorate further and cause a release.

Chromium and hexavalent chromium are known human carcinogens by inhalation exposure. The area within the main building around plating line 2 had a chromium result of 1,990 (mg/L) and a hexavalent chromium result of 1,580 (mg/L). According to the Agency for Toxic Substances and Disease Registry (ATSDR), inhalation of hexavalent chromium at high levels (greater than 2 micrograms per cubic meter [$\mu g/m^3$]) can irritate the nose and cause symptoms such as runny nose, sneezing, itching, nosebleeds, ulcers, and holes in the nasal septum.

Lead is classified as a probable human carcinogen and is toxic by both ingestion and inhalation exposure, and cadmium may also reasonably be anticipated to be a human carcinogen by inhalation exposure. With the broken windows throughout the building, dust and floor sweepings observed on the Site floor could become airborne and migrate to the residential properties located around the Site. According to ATSDR, cyanide is a powerful and rapid-acting poison. Exposure to small amounts of cyanide can be deadly and exposure to high levels of cyanide for a short time can cause harm to the brain and heart and even produce coma or death.

Although the primary area surrounding the site is primarily commercial and industrial there are several residences within close proximity. The total population within a one mile radius of the site is estimated at 3,932 people with three recreational parks within the one mile radius and four others within a one and a half mile radius.

(ii) Actual or potential contamination of drinking water supplies or sensitive ecosystems;

Cadmium and lead particles can travel long distances in air, and when they fall they both bind strongly with soil. Cadmium also readily dissolves in water. Chromium also binds with soil, and in the event of groundwater absorption can contaminate surrounding wells. Cyanide passes through soil into the groundwater. Also of concern is barium, if ingested in high levels through water, can cause multiple health problems including difficulty breathing, high blood pressure, and changes in heart rhythm, stomach irritation, and muscle weakness. The water supply is supplied from nearby Silver Lake and groundwater flow into or from the lake is unknown. It is also unknown if any of the residences in the surrounding area have wells.

(iii) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that pose a threat of release;

START documented the presence of numerous 55-gallon drums and smaller containers at the Site with unknown contents and others that indicated toxic, combustible and flammable substances located throughout the ME site. If any of these substances were mixed there could be severe reactions. For example, if sodium hydrosulfite would mix with any of the mineral acids an exothermic reaction may occur causing a potential fire and/or explosion. If a release were to occur in the outside storage warehouse there are no proper barriers to contain the liquids or vapors from escaping into the buildings or surrounding commercial and residential areas.

Hazardous wastes were observed stored in open vats and open drums in both the main plating building and the outside storage warehouse. Materials in these containers could easily be released by the deterioration of the containers or accidentally or purposely spilled by a trespasser. The site assessment team observed an open container of sodium hydrosulfite, which is a known combustible solid. When sodium hydrosulfite comes into contact with moisture or water it may ignite and pose a further threat of release from the site.

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Several 55-gallon drums of sodium hydrosulfite were observed in both of the buildings. Sodium hydrosulfite is flammable and is known to spontaneously ignite in moist air or upon contact with water. Seasonal excessive conditions, such as heavy rain or high humidity, may trigger the sodium hydrosulfite to ignite causing a release to the nearby residences and workers. In addition, the outside storage warehouse contains no door leaving the east side of the building totally exposed to the elements. The drums inside contain different chemicals and are loosely stacked two high. If strong winds were to gust inside this area the drums could potentially be knocked over and punctured resulting in a release to the environment. Temperature extremes (heat and cold) could also potentially affect the integrity of the drums.

(vi) Threat of fire or explosion;

Based on the labeling of various containers left on site, there are liquids (i.e. solvents) on site that can be easily ignited. If a source of ignition were provided to these materials, a potential conflagration could easily occur on site. The containers of sodium hydrosulfite on site also have the potential to ignite if brought into contact with water. The sodium hydrosulfite also has the potential to participate in an exothermic reaction if it comes in contact with any of the acids present on site. A reaction of this type could cause an explosion at the site.

(vii) The availability of other appropriate federal or state response mechanisms to respond to the release;

Illinois EPA officials gave full consideration to the appropriate disposal and management of site contaminants. After consideration was given to the overall impacts upon resources of the state, Illinois EPA officials elected to refer the site to the U.S.EPA.

IV. ENDANGERMENT DETERMINATION

Given the conditions at the Minton Enterprises Site, the nature of the hazardous substances on-site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The OSC proposes to undertake the following actions to mitigate threats posed by the presence of hazardous wastes at the Minton Enterprises Site:

Develop and implement a Site Health and Safety Plan, including an air monitoring plan and Site contingency plan;

Develop and implement a Site security plan;

Drums, smaller containers, vats, floor sweepings, unknown materials, facility contents, debris, and tanks will be sampled, analyzed, categorized and staged for disposal. Compatible waste streams will be bulked/re-containerized, and appropriately prepared for disposal at off-site disposal facilities;

Emptied tanks, piping, debris, drums and other containers will be cleaned as necessary, cut to size and disposed of at off-site disposal facilities;

Floors, walls, ceilings, building components and contents will be cleaned and/or disposed of as reasonably possible to remove contaminated dust and material to prevent contaminant migration or cross contamination of cleaned areas; and

Characterize, remove and properly dispose of hazardous substance and wastes located at the Site in accordance with U.S. EPA's Off-Site Rule (40 CFR 300.440).

The OSC has initiated planning for provision of post-removal Site control consistent with the provisions of Section 300.41 5(l) of the NCP. The nature of this removal action, as well as the complete removal of all hazardous wastes from the Site, will eliminate the need for any post removal Site control.

The estimated costs to complete the above activities are summarized below. These activities will require an estimated 30 working days to complete.

EXTRAMURAL COSTS:

Regional Removal Allowance Costs: Total Clean-up Contractor Costs	$354,172
Other Extramural Costs Not Funded from the Regional Allowance: Total START, including multiplier costs	$ 26,350
Subtotal, Extramural Costs	$380,522
Extramural Costs Contingency (20% of Subtotal, Extramural Costs)	$ 76,104
TOTAL, REMOVAL ACTION PROJECT CEILING	$456,626

The response actions described in this memorandum directly address the actual or threatened release at the Site of a hazardous substance, or of a pollutant, or of a contaminant which may pose an imminent and substantial endangerment to public health or welfare or to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements

All applicable, relevant, and appropriate requirements (ARARs) will be complied with to the extent practical. An E-mail letter was sent to Bruce Everetts of the Illinois EPA on September 11, 2006 requesting that the Illinois EPA identify State ARARs. Any State or Federal ARARs identified in a timely manner for this removal action will be complied with to the extent practical.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Continued risk to public health and the environment will result if no action or delayed action ensues.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in an Enforcement Confidential Addendum (see Attachment B).
The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $733,513.51.[1]

($456,626 + 16,151) + (55.15% x $472,777) = $733,513.51

[1]Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Minton Enterprises Site, Highland, Madison County, Illinois, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the Administrative Record for the Site (see Attachment C). Conditions at the Site meet the criteria of the NCP, 40 C.F.R. § 300.415 (b)(2) for a removal action, and I recommend your approval of the proposed removal action. The total estimated project ceiling, if approved, would be $472,777. Of this, an estimated $456,626 may be used for cleanup contractor costs. You may indicate your decision by signing below:

APPROVE: _____ for Richard Karl DATE: 9/26/06
Superfund Division Director

DISAPPROVE: _____ DATE: _____
Superfund Division Director

Attachments:

A. Detailed Cleanup Contractor Estimate
B. Enforcement Confidential Addendum
C. Administrative Record Index
D. Environmental Justice Analysis

cc: D. Chung, U.S. EPA HQ, 5202-G
M. Chezik, U.S. Department of Interior, **w/o Enf. Addendum**
B. Everetts, IL EPA, **w/o Enf. Addendum**
S. Davis, IL DNR, **w/o Enf. Addendum**

Attachment A

DETAILED CLEANUP CONTRACTOR ESTIMATE
MINTON ENTERPRISE SITE
HIGHLAND, MADISON COUNTY, ILLINOIS
SEPTEMBER 2006

The estimated cleanup contractor (ERRS only) costs necessary to complete the removal action at the Minton Enterprise Site are as follows:

Personnel and Equipment	$123,871
Materials and Misc	$ 30,300
Transportation and Disposal	$200,000
TOTAL	$354,171

ATTACHMENT C

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
MINTON ENTERPRISES SITE
HIGHLAND, MADISON COUNTY, ILLINOIS

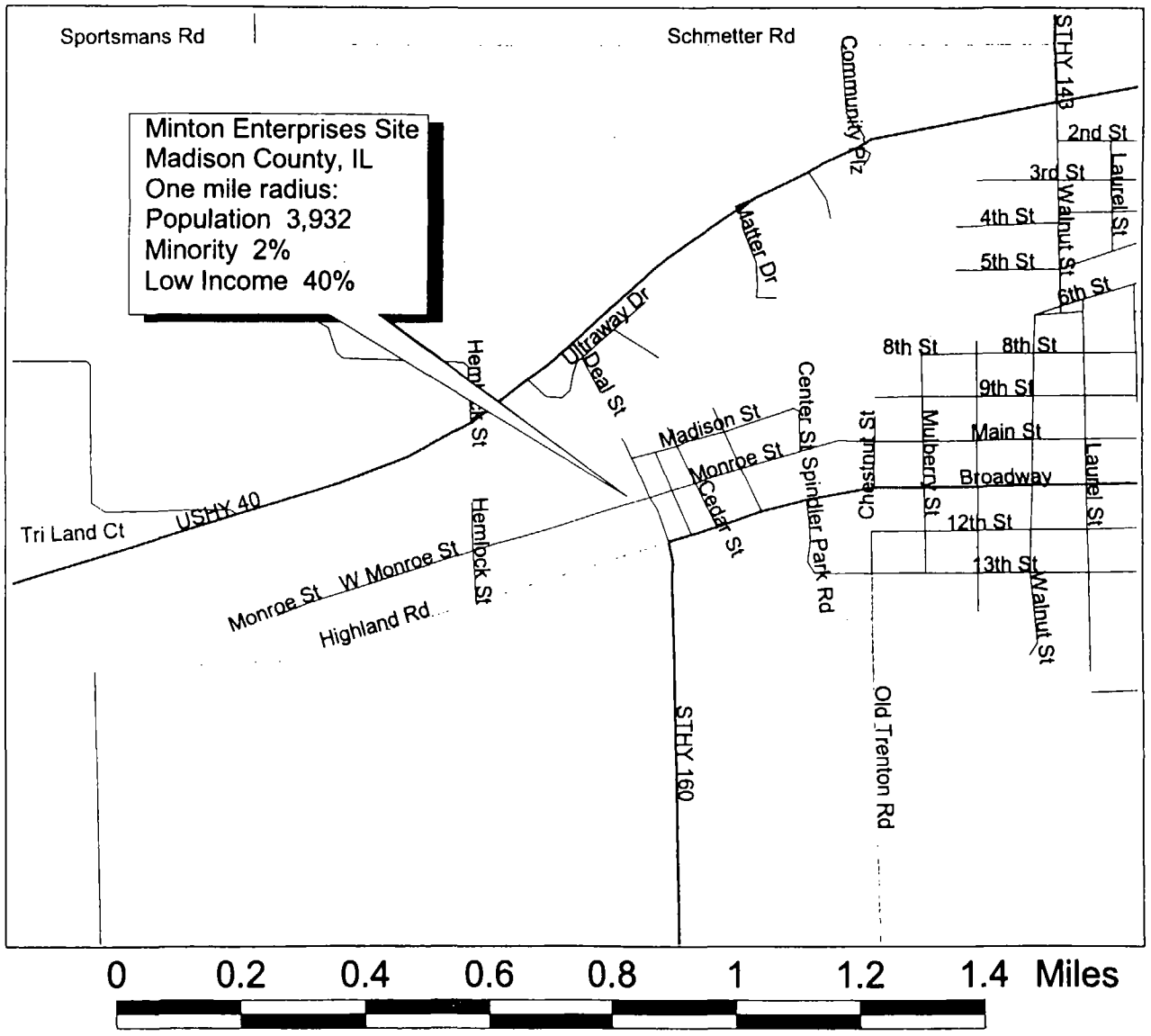
ORIGINAL
SEPTEMBER 15, 2006

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	08/16/06	Tetra Tech EM, Inc.	U.S. EPA	Site Assessment Report for the Minton Enterprises Site w/Attachments	74
2	00/00/00	Turner, K., & J. Brown, U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request for a Time Critical Removal Action at the Minton Enterprises Site (**PENDING**)	

Attachment D
Environmental Justice Analysis

Region 5 Superfund EJ Analysis

Minton Enterprises Site Highland, IL



State of Illinois averages:
Minority: 32%
Low Income: 27%

U.S. EPA Region 5
Environmental Justice Case Criteria
for State of Illinois

Minority: 64% or greater

Low Income: 54% or greater

Date of Map: 8/30/06

Source of Map: Census 2000 Database/
ArcView 3.0

Attachment B
Enforcement Confidential Addendum

ENFORCEMENT ADDENDUM

MINTON ENTERPRISES SITE
HIGHLAND, ILLINOIS

(REDACTED 1 PAGE)

ENFORCEMENT CONFIDENTIAL
NOT SUBJECT TO DISCOVERY